(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



T CORRE CONTROL IN CORRE WANT CORRESPONDED AND AN ORDER CORRESPONDED AND AND AND AND AND AND AND AND

(43) International Publication Date 24 June 2004 (24.06.2004)

PCT

(10) International Publication Number WO 2004/053221 A1

(51) International Patent Classification⁷:

D06L 3/12

(21) International Application Number:

PCT/EP2003/050913

- (22) International Filing Date: 1 December 2003 (01.12.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

- (30) Priority Data:
 - 02406084.0

10 December 2002 (10.12.2002) EF

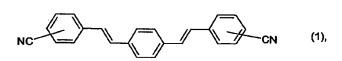
- (71) Applicant (for all designated States except US): CIBA SPECIALTY CHEMICALS HOLDING INC. [CH/CH]; Klybeckstrasse 141, CH-4057 Basel (CH).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): DONZÉ, Jean-Jacques [FR/FR]; 20B, rue du Général de Gaulle, F-68740 Blodelsheim (FR). MEYBERGER, Marie [FR/FR]; 4, rue des Champs, F-68480 Bouxwiller (FR).

MILDE, Michael [DE/DE]; Kolpingstrasse 12B, 79639 Grenzach-Wyhlen (DE). PAPENDICK, Volker [DE/DE]; Pestalozzistrasse 64, 79540 Lörrach (DE). ZELGER, Josef [DE/CH]; Pfaffenlohweg 18, CH-4125 Riehen (CH).

- (74) Common Representative: CIBA SPECIALTY CHEM-ICALS HOLDING INC.; Patent Department, Klybeckstrasse 141, CH-4057 Basel (CH).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

[Continued on next page]

(54) Title: MIXTURES OF FLUORESCENT WHITENING AGENTS



$$R_1$$
 X X R_1 R_1 R_2 R_3 R_4 R_4 R_4 R_4 R_5 $R_$

(57) Abstract The present invention relates to a mixture of fluorescent whitening agents comprising 11 to 20 % by weight of a compound of formula (1), and 80 to 89 % by weight of a compound of formula (2), wherein R₁ denotes hydrogen, C₁-C₆alkyl, C₅-C₁₄aryl or C₆-C₂₄aralkyl and X is a bivalent radical of formula (3), (4) or (5) compositions containing the mixture and the use of the compositions for whitening synthetic fibres, in particular, polyester.